

## **Belding Soil Lead Sampling Fact Sheet:**

**January 12, 2011**

### **Why is the DNRE sampling the soil in Belding?**

- At the September 23, 2010 public meeting, the Michigan Department of Natural Resources and Environment (DNRE), Remediation Division (RD) committed to collecting soil samples from the residential area in the vicinity of Mueller Industries, Inc., to determine if air emissions had impacted the surrounding soil.
- On October 11-13, 2010, the DNRE, RD performed field screening of the soil at 375 locations using X-Ray fluorescence (XRF).
- Based on the results of the XRF samples, laboratory soil samples were collected from 10 of the XRF screening locations. Two additional samples were collected from a depth of 6" below the surface at two XRF locations.
- 7 of the 12 laboratory soil samples exceeded the Direct Contact Criteria for Lead.
- The DNRE, RD met with representatives of Mueller Industries, Inc. and Mueller has agreed to perform clean-up of all of the impacted soil.

### **Why does lead pose a health concern?**

- Lead is naturally occurring and is present virtually everywhere at low levels in air, water, soil and food.
- High environmental levels can be due to the historical uses of lead in gasoline and paint, and due to air emissions from lead-related industries.
- There is no known "safe" level of lead in the body.
- Infants and children are at greater risk of harm from lead. Lead exposure above the protective health standard can adversely affect a child's development and could impact children's learning, behavior and IQ.
- Inhalation is not the only exposure pathway for lead air emissions. Once lead settles out of the air, it collects on surfaces such as plants or soil and can later be ingested. This oral route of exposure is of special concern for children as they exhibit hand to mouth behavior, allowing for increased exposure.
- Lead exposure is also of more concern to children since their nervous systems are developing and are more sensitive to damage from pollutants.
- Research has shown that for children, the greatest danger to the toxic effects of lead comes from exposure to lead-based painted surfaces in older (pre-1978) homes. Adding lead from air sources can increase the potential for lead accumulation in the bodies of children.
- For more information on lead effects in children, contact the Michigan Department of Community Health Childhood Lead Poisoning Prevention Program at 1-888-322-4453 or visit their website at [www.michigan.gov/leadsafe](http://www.michigan.gov/leadsafe). Parents who want to have their children tested for lead should contact their primary care family physician or the Ionia County Health Department at 616-527-5341.

### **How can you be exposed to lead in soils?**

- Residential soil lead exposure is expected to occur primarily via inhalation of airborne contaminated soil particles or through direct or incidental ingestion of lead-containing soils or dust. These exposures could occur during the following activities: landscaping, gardening or other intensive soil contact activities, outdoor play, or contact with outdoor pets.

**What measures can you take to reduce your exposure to potential lead-containing residential soils?**

- Thoroughly wash any exposed skin after soil contact activities.
- Keep soils moist during soil contact activities to minimize inhaling or swallowing airborne soil particles and dust.
- Wash soil from items like footwear, clothes, and garden tools outside after each use and store these items outside to minimize introducing soils into the home.
- Do not drink, smoke or engage in other activities that may introduce soil into the mouth while gardening or conducting other soil contact activities.
- Monitor children and their activities to ensure they do not ingest soil either directly or indirectly by way of dirty hands, toys or other objects being placed in their mouth.
- Prevent pets from tracking soil into the house.
- Cover bare areas of soil in the yard.
- An agricultural standard for lead in soil is not available; however, residents who are concerned about garden produce can minimize their potential exposure by thoroughly washing homegrown fruits and vegetables to remove all soil particles.

**Update on DNRE monitoring of Belding air for lead**

- The Merrick Street monitor has recorded atmospheric lead concentrations above the protective health standard since the public meeting held on September 23, 2010.
- The most recent available data shows that the three-month average lead level is in compliance with the health protective standard. However, the recorded levels may be lower due to wind direction and lead emitting processes not being operated on some monitoring days.
- Recent three-month lead levels monitored in Belding:
  - July-September 0.21  $\mu\text{g}/\text{m}^3$
  - August-October 0.26  $\mu\text{g}/\text{m}^3$
  - September-November 0.13  $\mu\text{g}/\text{m}^3$
- The DNRE will continue to monitor the air in Belding until there are at least three consecutive years of data showing that the protective health standard is being met.

**Update of activities to lower the air-lead levels in Belding**

- On December 28, 2009, the DNRE issued a Violation Notice to Mueller Industries for emission limit exceedances.
- Mueller Industries upgraded control equipment at their facility in September 2010.
- Stack testing was conducted at Mueller Industries in October and November 2010 which showed compliance with the existing permit limits.
- The facility is required to submit a permit application by the end of January in which they must show how they are going to comply with the new lead standard of 0.15  $\mu\text{g}/\text{m}^3$ .
- The U.S. EPA will designate Belding as “nonattainment” with the National Ambient Air Quality Standard for lead. A nonattainment designation will require that:
  - New industrial sources of lead in the Belding nonattainment area apply the very best controls to their processes, regardless of cost.
  - New lead emissions from all sources in the nonattainment area be “offset” by lowering the emissions at older facilities by an equal or greater amount.
  - Sources locating elsewhere demonstrate that the impact of their lead emissions upon the Belding nonattainment area is insignificant.